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EXAMINER	
STORM, DONALD L	

ART UNIT	PAPER NUMBER
2626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/817,005	BOSSEMEYER, ROBERT WESLEY	
	Examiner	Art Unit	
	Donald L. Storm	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-13,15-24 and 26-29* is/are rejected.

7)☒ Claim(s) *4,14,25 and 30-32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The numbering of claims was not accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 35-44 in the PRELIMINARY AMENDMENT filed March 23,2001 have been renumbered to be claims 23-32. The instruction to cancel claims 23-34 has been stricken because no claims having those numbers were present.

FURTHER REFERENCE TO THE CLAIMS BY NUMBER WILL BE TO THE RENUMBERED CLAIMS.

The highest numbered claim to date of this application is claim 32. Amendments in accordance with 37 CFR 1.121 should include claims 1-32 and the next added claim should be number 33. DLS

Allowable Subject Matter

2. Claims 4, 5, 7, 8, 10, 14-16, 20, and by dependency claims 6, 9, and 21-22, would be allowable over the prior art of record if rewritten to include all of the limitations of the base claim and any intervening claims. The whole structure and interaction expressed by the combination of all limitations is not made obvious compared to the prior art of record for the whole invention of those dependent claims, particularly with three utterances, the third of which is conditionally requested, and a condition on forming a reference for a word. Certain assumptions that make the limitations clear have been considered for claim 7, as described next or elsewhere in this Office action. The claims should also be rewritten to overcome any objections or rejections under 35 U.S.C. 112(2), especially as appearing in this Office action.

3. The allowable subject matter of claim 23, and by dependency claims 24-26, resides in the whole structure and interaction expressed by the combination of all limitations compared to the prior art of record. No particular reference provides relevant, objective evidence to make the claimed method obvious by changing the closest prior art to include a signal to noise ratio less than a predetermined signal to noise ratio as criterion and increasing a gain of a voice amplifier when that criterion is met, particularly with receiving two utterances of the same word.

4. Claims 29, 30, 32, and by dependency claim 31, would be allowable over the prior art of record if rewritten to include all of the limitations of the base claim and any intervening claims. The whole structure and interaction expressed by the combination of all limitations is not made obvious compared to the prior art of record for the whole invention of those dependent claims, particularly with an input gain that can be adjusted both up and down during speech input and input for a saturation threshold to an adjustable gain amplifier. Certain assumptions that make the limitations clear have been considered for the claims, as described next or elsewhere in this Office action. The claims should also be rewritten to overcome any objections or rejections under 35 U.S.C. 112(2), especially as appearing in this Office action.

Specification

5. The title is objected to because it is not sufficiently descriptive of the invention. A new title is required that is clearly indicative of the invention to which the claims are directed. See MPEP § 606.01.

6. The Examiner notes, without objection, the possibility of informalities in the abstract. It is in the best interests of the patent community that the Applicant be aware of these editorial situations and consider changes during normal review and revision of the abstract:

Numbers in the abstract referring to elements in the drawings lengthen the abstract and the reference is unclear when not accompanied by the appropriate figure. They may interfere with its purpose, which is to determine quickly from a cursory inspection the nature and gist of the technical disclosure. The language should be clear and concise. See 37 CFR § 1.72 and MPEP § 608.01(b). The form used in the patent disclosure, such as "(354)", "(358)", "(362)", "(366)", "(370)", and "(364)" may not be appropriate in the abstract.

Claim Informalities

7. Claims 4, 14, 25, and 30-32 are objected to as being (directly or indirectly) dependent upon a rejected base claim. See MPEP § 608.01(n)V.

8. Claims 7, 26, and 28 are objected to under 37 CFR 1.75(a) because the claim does not end with a period. Each claim begins with a capital letter and ends with a period to avoid undue confusion in determining if the claim is complete. Appropriate correction is required. See MPEP § 608.01(m).

9. Claim 13 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "including the steps" (line 1) needs clarification. Because only one additional step is recited by claim 13, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --including the step--.

10. Claim 19 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "further executing the steps of" (line 2) needs clarification. Because only one additional step is recited by claim 19, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --further executing the step of--.

11. Claim 27, and by dependency claims 28-32, are objected to under 37 CFR 1.75(a) because several phrases should be clarified, at least:

a. "the output of the adjustable gain amplifier". Is the amplifier's output inherently present? Is it inherently only one output? Does this limit the scope to an amplifier that has only one output?

b. "the output of the feature extractor". Neither feature extractor nor its output was previously recited.

c. "the gain input". No gain input was previously recited. Probably a gain input to an amplifier is not inherent.

d. "the speech input". Is this the same as "the input speech signal"? Probably the connection alone does not guarantee that speech will be input.

12. Claim 28, and by dependency claim 32, are objected to under 37 CFR 1.75(a) because the phrase "the output of the adjustable gain amplifier" should be clarified. Is the amplifier's output inherently present? Is it inherently only one output? Does this limit the scope to an amplifier that has only one output?

13. Claim 29 is objected to under 37 CFR 1.75(a) because the meaning of the phrase "the signal to noise meter" (lines 2-3) needs clarification. Because no signal to noise meter was previously recited, it may be unclear as to what element this phrase refers. To further timely prosecution and evaluate prior art, the Examiner has interpreted this phase as --a signal to noise meter--.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 1-3, 11-13, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vysotsky [U. S. Patent Number 5,664,058] in view of Sakoe et al [U. S. Patent Number 3,816,722].

16. Regarding claim 1, Vysotsky describes enrollment as training and describes the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

receiving an utterance of a vocabulary word [at column 8, lines 6-7 as voice message inputted to the recognizer & at Abstract, lines 1-2 as one or a few words];

extracting features from the utterance [at column 8, line 8 as forming a token of the voice message];

receiving a second utterance of the word [at column 8, lines 25-26 as a repetition of the new voice message & at column 7, lines 9-10 as K repetitions of the new voice message & at column 8, line 35 as i=2];

extracting the features from the second utterance [at column 8, lines 25-26 as a repetition of the new voice message & at column 7, lines 9-10 as K repetitions of the new voice message & at column 8, line 35 as i=2];

determining a first similarity between features of the first and second utterances [at column 8, lines 51-52 as the IN-TEST for the current token & at column 7, lines 42-44 as the score of the new token against previous tokens of the new voice message];

requesting a third utterance of the word [at column 9, line 28 as user is prompted to repeat the new voice message];

extracting the features from the third utterance [at column 7, lines 8-12 as repetitions of the new message, for 1=3, the third repetition];

determining a second similarity between features of the first and third utterances [at column 8, lines 36-40 as score the new token against previous templates of the new voice message & [at column 8, lines 38-42 as match score of the current token with a previously formed template of the new voice message]; and

forming a reference for the word [at column 8, lines 59-61 as the current token becomes a template which can be recognized].

Vysotsky does not explicitly describe that requesting a third utterance occurs when a predetermined similarity is less than the first similarity, and that forming a reference occurs when the second similarity is greater than or equal to the predetermined similarity.

According to Vysotsky [at column 7, lines 41-45], not passing the IN-TEST means that the recognition score is greater than a threshold, not less than the threshold, as in claim 1 for the first similarity. However, Vysotsky [at column 7, lines 19-23] describes that smaller scores indicate a better match. That is, either a greater similarity or a lower separation distance corresponds to a smaller value of Vysotsky's score.

Sakoe discloses a similarity computer to provide pattern recognition for speech, and teaches [at column 2, lines 16-64] that either similarity measures or distance measures are suitable for similarity computations. A few limitations and benefits to be considered are discussed briefly. Sakoe describes the substitution of minimum values or maximum values in comparisons when the chosen quantity increases or decreases in similarity. Sakoe discloses [at column 9, lines 19-47] that it is easy for those skilled in the art to modify the similarity computer to use either similarity measures or distance measures and use the appropriate minimum or maximum criterion.

It would have been obvious to one of ordinary skill in the art of pattern recognition at the time that the invention was made to substitute a similarity measure for which higher score values indicated greater similarity in place of Vysotsky's scores. A scoring measure for which higher

scores indicate greater similarity provides a more convenient way of using, visualizing, and teaching comparisons to thresholds that test similarity.

With such a substitution of scoring measures, Vysotsky's IN-TEST would not be passed when the similarity between the first and second utterances of the voice message is lower than the threshold (as in claim 1). When the IN-TEST is not passed, Vysotsky [at column 9, lines 21-22] requests a third utterance.

Also with such a substitution of scoring measures, Vysotsky's IN-TEST would be passed when the similarity between the first second utterances of the voice message is greater than or equal to the threshold (as in claim 1). When the IN-TEST is passed, Vysotsky [at column 8, lines 59-61] forms a reference.

17. Regarding claim 2, Vysotsky also describes:

when the second similarity is less than the predetermined similarity [which is inherent, because Vysotsky always calculates the recognition score without regard for whether a score is less or greater than a threshold];

determining a third similarity between the second and third utterances [at column 8, lines 36-40 as score the new token against previous templates of the new voice message & at column 8, lines 38-42 as match score of the current token with a previously formed template of the new voice message & at column 7, lines 8-12 as repetitions of the new message; for 1=3, the third repetition]; and

when the third similarity is greater that or equal to the predetermined similarity, forming the reference [at column 8, lines 59-61 as the current token becomes a template which can be recognized].

18. Regarding claim 3, Vysotsky also describes:

when the third similarity is less than the predetermined similarity [at column 9, lines 21-22 as IN-TEST not passed]; and

return to step (a) [at column 9, lines 27-28 as return to point A].

19. Regarding claim 11, the limitations are similar to those recited in claim 1. Vysotsky and Sakoe teach and make obvious those similar claim limitations as specified there, and Vysotsky also describes:

requesting the user to speak (for the first utterance) [at column 8, lines 2-5 as the recognizer prompts the user to speak the desired new voice message]; and

requesting the user to speak (for the second utterance) [at column 8, lines 25-26 as user is prompted to repeat the new voice message].

20. Regarding claim 12, the limitations are similar to those recited in claim 2. Vysotsky teaches those similar claim limitations as specified there.

21. Regarding claim 13, the limitations are similar to those recited in claim 3. Vysotsky teaches those similar claim limitations as specified there.

22. Regarding claim 17, the limitations are similar to those recited in claim 1 and claim 11. Vysotsky and Sakoe teach and make obvious those similar claim limitations as specified there, and also describes:

digitized utterances [at column 5, lines 57-59 as 8-bit and 14-bit PCM signals].

23. Regarding claim 18, the limitations are similar to those recited in claim 2. Vysotsky teaches those similar claim limitations as specified there.

24. Regarding claim 19, the limitations are similar to those recited in claim 3. Vysotsky teaches those similar claim limitations as specified there.

Boutaud

25. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boutaud et al. [US Patent 5,072,418].

26. Regarding claim 27, Boutaud [see Fig. 17] describes speech recognition, verification, and enrollment. Boutaud's description makes obvious the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

an adjustable gain amplifier connected to an input signal, where the gain input can be adjusted both up and down during the input [see Fig. 1a, items 31, 23, 21, and their descriptions, especially at column 45, lines 19-55, of an automatic gain control system to raise or lower the gain of an input signal];

an amplitude comparator having a first input connected to the output of the adjustable gain amplifier [see Fig. 1a, items 31, 77, 23, 29, 21, and their descriptions, especially at column 45, lines 28-31, of the MUX selecting the contents of ACCB and comparing the contents of the accumulator ACC to ACCB];

the amplitude comparator having a second input connected to a saturation threshold [see Fig. 1a and 1b, items 23, 85, and their descriptions, especially at column 16, lines 42-56, of the accumulator 23 loaded with the most positive number in the saturation mode (ST0 set)];

a feature comparator is connected to the output of a feature extractor [at column 34, lines 1-15, as a template matching algorithm is provided with a spectrum converted by a processor that converts input to spectrum].

Boutaud does not explicitly describe a speech signal input to the adjustable gain amplifier.

Boutaud [at column 45, line 56] also points out that the adjustable gain amplifier can be used in an audio amplifier and provide the advantage of conditioning the input signal so that it can be more effectively processed. To the extent that Boutaud does not necessarily include the speech signal as input to the adjustable gain amplifier, it would have been obvious to one of ordinary skill in the art of speech recognition, verification, and enrollment at the time of invention to include the concepts described by Boutaud, at least including the adjustable gain amplifier, and inputting the speech signal to it because that could advantageously condition the speech signal so that it can be more effectively processed by the spectrum converter and comparator.

27. Regarding claim 28, Boutaud does not explicitly describe a feature extractor is connected to the output of the adjustable gain amplifier.

Boutaud [at column 45, line 56] also points out that the adjustable gain amplifier can be used in an audio amplifier and provide the advantage of conditioning the input signal so that it can be more effectively processed. To the extent that Boutaud does not necessarily include the speech signal as input to the adjustable gain amplifier to provide its output to the processor that converts input to spectrum, it would have been obvious to one of ordinary skill in the art of speech recognition, verification, and enrollment at the time of invention to include the concepts described by Boutaud, at least including the adjustable gain amplifier, and inputting the speech signal to it to provide outputting that the processor converts to spectrum, because that could advantageously condition the speech signal so that it can be more effectively processed by the spectrum converter and comparator.

Double Patenting

28. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention,"

in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

U.S. Patent 6,012,027

29. Claims 20 and 22 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 18 and 20, respectively, of prior U.S. Patent No. 6,012,027. This is a double patenting rejection. Claim 22 includes all the limitations of claims 20 and 17 by dependency. Claim 20 includes all the limitations of claim 17 by dependency.

30. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting

ground, AND provided the conflicting application or patent is shown to be commonly owned with this application or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

U.S. Patent 6,012,027

31. Claims 1-3, 5-13, 15-19, 21, 23 24, and 26 are rejected on the ground of nonstatutory, obviousness-type double patenting as being unpatentable over claims 7-8 of U.S. Patent 6,012,027. Although the conflicting claims are not identical, they are not patentably distinct from each other because a person of ordinary skill in the art would conclude that the invention defined in the claims in issue is an obvious variation of the invention defined in the claims in the patent.

32. Independent claim 1, and dependent claims 2-3 and 5-10, of this application are not patentably distinct from claims 1-9 of U.S. Patent 6,012,027 because the claims are set forth including obviously similar phrases.

However, claim 1, and by dependency claims 2-3 and 5-10, of this application do not explicitly include U.S. Patent 6,012,027's claimed limitation combination of (d) determining a duration of the second utterance and (c) when the duration is less than a minimum duration, requesting a user speak a third utterance of the vocabulary word and proceeding to step (i), as recited in its claim 1, and by dependency claims 2-9.

It would have been obvious to one of ordinary skill in the art of computerized speech enrollment at the time that the invention was made that claim limitations in U.S. Patent 6,012,027 claims differ from those in this application only by functions that can be eliminated if the effect of the additional functions is unneeded or undesired. If the functionality provided by the additional

limitations were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

Similarly, it would have been obvious that the additional limitations provided by the dependent claims 2-9 of U.S. Patent 6,012,027 should not have been included if their added functions were not desired because their elimination would further simplify processing.

33. Independent claim 11, and dependent claims 12-13 and 15-16, of this application are not patentably distinct from claims 10-14 of U.S. Patent 6,012,027 because the claims are set forth including obviously similar phrases.

However, claim 11, and by dependency claims 12-13 and 15-16, of this application do not explicitly include U.S. Patent 6,012,027's claimed limitations of (c) determining if the first utterance exceeds an amplitude threshold and (d) when the first utterance does not exceed the amplitude threshold, return to step (a), as recited in its claim 10, and by dependency claims 11-14.

It would have been obvious to one of ordinary skill in the art of computerized speech enrollment at the time that the invention was made that claim limitations in U.S. Patent 6,012,027 claims differ from those in this application only by functions that can be eliminated if the effect of the additional functions is unneeded or undesired. If the functionality provided by the additional limitations were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

Similarly, it would have been obvious that the additional limitations provided by the dependent claims 11-14 of U.S. Patent 6,012,027 should not have been included if their added functions were not desired because their elimination would further simplify processing.

34. Independent claim 17, and dependent claims 18, 19, and 21, of this application are not patentably distinct from claims 15-20 of U.S. Patent 6,012,027 because the claims are set forth including obviously similar phrases.

However, claims 17, and by dependency claims 18, 19, and 21, of this application do not explicitly include U.S. Patent 6,012,027's claimed limitations of (d) determining a signal to noise ratio and (e) when the signal to noise ratio is less than a predetermined signals to noise ratio, returning to step (a), as recited in its claim 15, and by dependency claims 16-20.

It would have been obvious to one of ordinary skill in the art of computerized speech enrollment at the time that the invention was made that claim limitations in U.S. Patent 6,012,027 claims differ from those in this application only by functions that can be eliminated if the effect of the additional functions is unneeded or undesired. If the functionality provided by the additional limitations were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

Similarly, it would have been obvious that the additional limitations provided by the dependent claims 16-20 of U.S. Patent 6,012,027 should not have been included if their added functions were not desired because their elimination would further simplify processing.

35. Independent claim 23, and dependent claims 24 and 26, of this application are not patentably distinct from claims 7 and 8 of U.S. Patent 6,012,027 because the claims are set forth including obviously similar phrases.

However, claims 23 and 26 of this application does not explicitly include U.S. Patent 6,012,027's claimed limitations of (d) determining a duration of the second utterance; (e) when the duration is less than a minimum duration., requesting a user to speak a third utterance of the vocabulary word and proceeding to step (i); (g) determining a first similarity between the plurality of features from the first utterance and the plurality of features from the second utterance; (h) when the first similarity is less that a predetermined similarity , requesting a user to speak a third utterance of the vocabulary word; (i) extracting the plurality of features from the third utterance; (j) determining a second similarity between the plurality of features from the first utterance and the plurality of features from the third utterance; and (k) when the second similarity is greater that

or equal to the predetermined similarity, forming a reference for the vocabulary word, as recited in its claim 1, and by dependency claims 7-8.

However, claim 24, dependent to claim 23, does not explicitly include U.S. Patent 6,012,027's claimed limitations of (d) determining a duration of the second utterance; (e) when the duration is less than a minimum duration., requesting a user to speak a third utterance of the vocabulary word and proceeding to step (i), as recited in its claim 1, and by dependency claims 7-8.

It would have been obvious to one of ordinary skill in the art of computerized speech enrollment at the time that the invention was made that claim limitations in U.S. Patent 6,012,027 claims differ from those in this application only by functions that can be eliminated if the effect of the additional functions is unneeded or undesired. If the functionality provided by the additional limitations were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

Similarly, it would have been obvious that the additional limitations provided by the dependent claim 8 of U.S. Patent 6,012,027 should not have been included if their added functions were not desired because their elimination would further simplify processing.

U.S. Patent 6,249,760

36. Claims 27-29 are rejected on the ground of nonstatutory, obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent 6,249,760. Although the conflicting claims are not identical, they are not patentably distinct from each other because a person of ordinary skill in the art would conclude that the invention defined in the claims in issue is an obvious variation of the invention defined in the claims in the patent.

37. Independent claim 27, and dependent claims 28 and 29, of this application are not patentably distinct from claim 2 of U.S. Patent 6,249,760 because the claims are set forth including obviously similar phrases.

However, claim 27 of this application does not explicitly include U.S. Patent 6,249,760's claimed limitations of a signal to noise meter connected to an output of the adjustable gain amplifier; a signal to noise comparator having a first input connected to the signal to noise meter and a second input connected to a threshold, and output of the signal to noise comparator is connected to a s gain input of the adjustable gain amplifier; a feature extractor is connected to the output of the adjustable gain amplifier; and an OR gate having a first amplitude comparator and a second input connected to the output of ht signal to noise comparator, as recited in its claims 1 and 2, since claim 2 includes the limitation s o f its claim 1 by dependency.

However, claim 28 of this application does not explicitly include U.S. Patent 6,249,760's claimed limitations of a signal to noise meter connected to an output of the adjustable gain amplifier; a signal to noise comparator having a first input connected to the signal to noise meter and a second input connected to a threshold, and output of the signal to noise comparator is connected to a s gain input of the adjustable gain amplifier; and an OR gate having a first amplitude comparator and a second input connected to the output of ht signal to noise comparator, as recited in its claims 1 and 2, since claim 2 includes the limitation s o f its claim 1 by dependency.

However, claim 29, of this application do not explicitly include U.S. Patent 6,249,760's claimed limitations of a signal to noise meter connected to an output of the adjustable gain amplifier; a feature extractor is connected to the output of the adjustable gain amplifier; and an OR gate having a first amplitude comparator and a second input connected to the output of ht signal to noise comparator, as recited in its claims 1 and 2, since claim 2 includes the limitations of its claim 1 by dependency.

It would have been obvious to one of ordinary skill in the art of computerized speech recognition at the time that the invention was made that claim limitations in U.S. Patent 6,249,760 claims differ from those in this application only by functions that can be eliminated if the effect of the additional functions is unneeded or undesired. If the functionality provided by the additional limitations were not desired, it would have been obvious to eliminate it, and so achieve the advantage of simplifying the processing.

Conclusion

38. The following references made of record and not relied upon are considered pertinent to applicant's disclosure:

Sakata [U. S. Patent Number 4,535,473] describes establishing and using an amplitude histogram to detect the presence of speech.

Das et al. [U. S. Patent Number 4,618,984] describes updating reference patterns when distance measures between repeated utterances meet threshold conditions.

Forse [U. S. Patent Number 4,912,766] describes AGC control in a speech recognition processor.

Dautrich et al. [U. S. Patent Number 4,972,485] shows digital signal processing of feature extraction for speech recognition.

Jakatdar [U. S. Patent Number 5,495,553] shows duration and amplitude thresholds for detection of speech frames.

Worthington et al. [U. S. Patent Number 5,698,834] provides amplitude and time-out criteria to determine how to select speech features to form a template for speech recognition.

Salazar et al. [U. S. Patent Number 5,774,841] enrolls voice commands by repeated prompts and inputs, with SNR determination for gain control.

39. Any response to this action should be mailed to:

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40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Storm, of Art Unit 2654, whose telephone number is (571) 272-7614. The examiner can normally be reached on weekdays between 7:00 AM and 3:30 PM Eastern Time. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: ebc@uspto.gov. For general information about the PAIR system, see http://pair-direct.uspto.gov.

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March 21, 2006